

THE NORDIC MARINE INSURANCE STATISTICS (NoMIS) 2016

OCEAN HULL TRENDS

CLAIMS IN LAY-UP

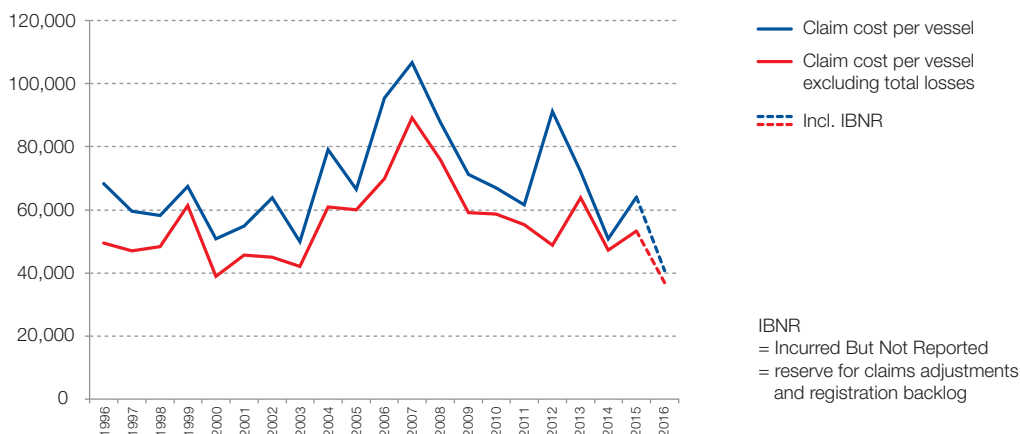
An actuary would perhaps describe the 2016 claims picture from the Nordic Marine Insurance Statistics (NoMIS) as “benign”. An underwriter might conclude equally laconically: “He who sleeps does not sin”. The question is: what happens when the sleeping beauties return from lay-up?

It is safe to say that 2016 was an unusually good claims year. In 2015, both the total loss frequency and the claim cost per vessel were increasing. We then warned that the floor for a positive long-term trend had been reached, and that the risk of constructive total losses was on the rise. However, one year later, the positive long-term trend continues and the volatility and impact – or absence – of larger claims become even more apparent in the claims statistics. In this article, we will first give an update on the claims impact in 2016, and then try to find possible explanations for the current situation.

SIZE MATTERS - MORE THAN EVER

The year 2016 is characterised by an absence of major claims and total losses. Graph 1 shows the claim cost per vessel. The upper curve in this graph represents all claims, while the lower one disregards total losses. Each time there is a big gap between the two curves, it is safe to assume that expensive total losses hit the portfolio. Excluding total losses causes the red curve to drop down from the blue, which includes all claims. This is the case for the years 2006, 2012 and 2015, when very expensive claims hit the book.

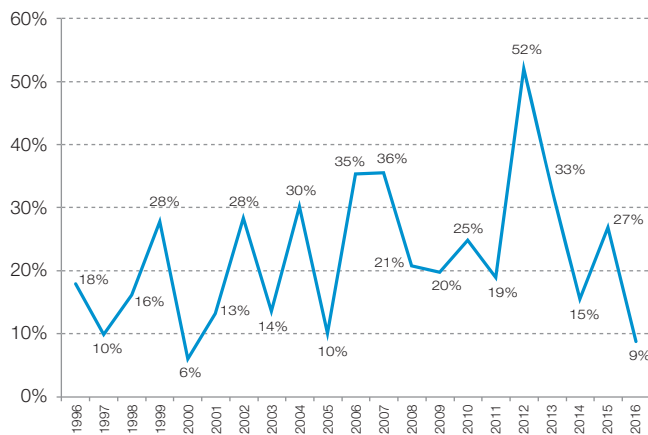
1: Ultimate partial and total claim cost per vessel (USD), by date of loss



On the other hand, in 2013, 2014 and 2016 the two curves show an entirely opposite behaviour. In these years, the general absence of expensive total losses brings the two curves close to each other:

Another way of visualising the impact of large claims is graph 2. The curve illustrates the cost of claims above USD 10 million as a percentage of the total claims cost in the same year.

2: Claims in excess of USD 10 million as % of total claims cost

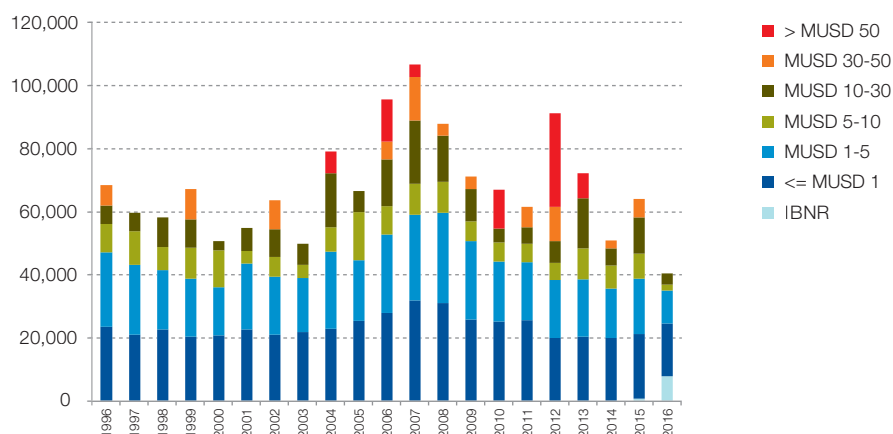


2012, with the biggest loss in recent history, the “Costa Concordia”, stands out. So, if the year 2012 was the “Year of the Titans”, it would be fair to find a suitable antonym for 2016.

YEARS OF TITANS – YEARS OF TRIFLES

Recapping previous years, graph 3 shows how 2014 impressed with only a few claims over USD 10 million and even fewer over USD 30 million. 2013, on the other hand, saw two extremely costly partial claims over USD 60 million each and was only topped by 2012, probably justifiably named “The Year of the Titans” back then. No fewer than five costly total losses hit the book in 2012, including the “Costa Concordia” claim. However, it appears that 2012 was an outlier in an overall positive 10-year trend.

3: Claim per vessel (USD), by date of loss



As graph 3 illustrates, 2016 enters history as the year that...

- ...there is a complete absence of claims > USD 30 million for the first time in 10 years.
- ...the two most expensive claims combined do not even reach USD 30 million.
- ...the number of claims > USD 5 million is record low.

These figures are not only graphically imposing, their statistical impact is quite momentous. Four years after the “Year of the Titans”, the absence of Greek deities plays a large role in the record “Year of the Trifles”.

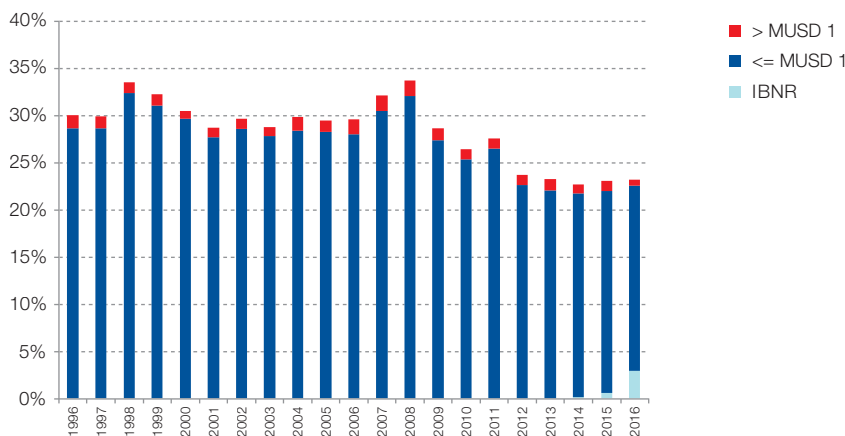
SMALL CLAIMS – TREATMENT WITHOUT THE BITTER PILLS

If the 2016 claim figures were scrutinised by a professional physician, he would be pleased with the change in severity. However, as a physician usually checks more than one health indicator, it is as important to check the claims frequency as well as the severity. In line with the observations of severity, all frequency intervals – except one – also show a downward trend. The absence of major claims and reduction in medium sized claims push down most figures. The only claims interval that shows a 2% increase in frequency is claims below USD 10,000. This is probably also the claims interval that is easiest to target for shipowners and insurers. A relatively small amount of additional effort – in the form of increased loss prevention initiatives or better security awareness education – can make a real impact in reducing the number of these claims that would otherwise have the potential to grow in size. Writing off the increase of small claim frequency as “noise” does not accommodate a low-frequency environment.

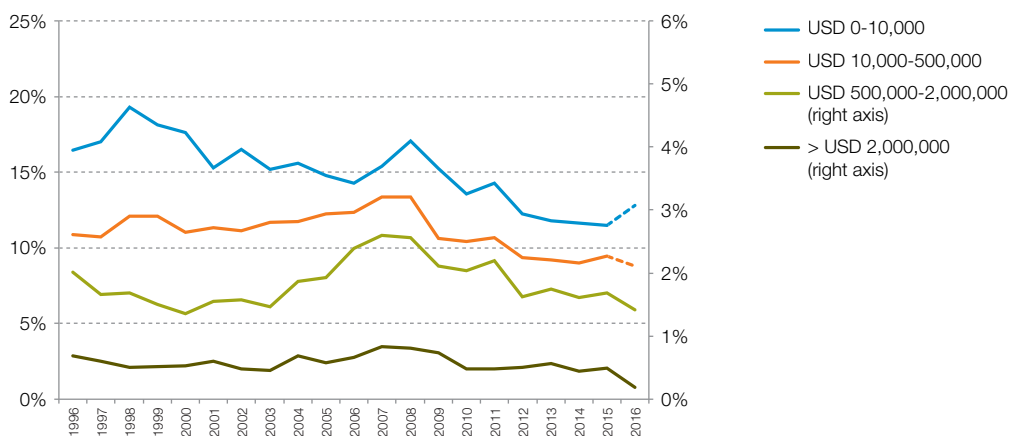
DECADE OF POSITIVE CLAIMS FREQUENCY

The claims frequency has fallen from a peak of 34% in 2008 to a long-term low of around 23% from 2014 onwards. Possible explanations for this favourable development are higher deductibles, reduced vessel utilisation due to over-capacity, and slightly younger but bigger vessels in the portfolio. In addition, a strong US dollar against most major currencies made it less expensive for insurers to settle claims, as a significant proportion of the insurers' claim costs and expenses are nominated in currencies other than US dollar. Most of these parameters continue to affect the frequency favourably.

4: Claims frequency, by date of loss



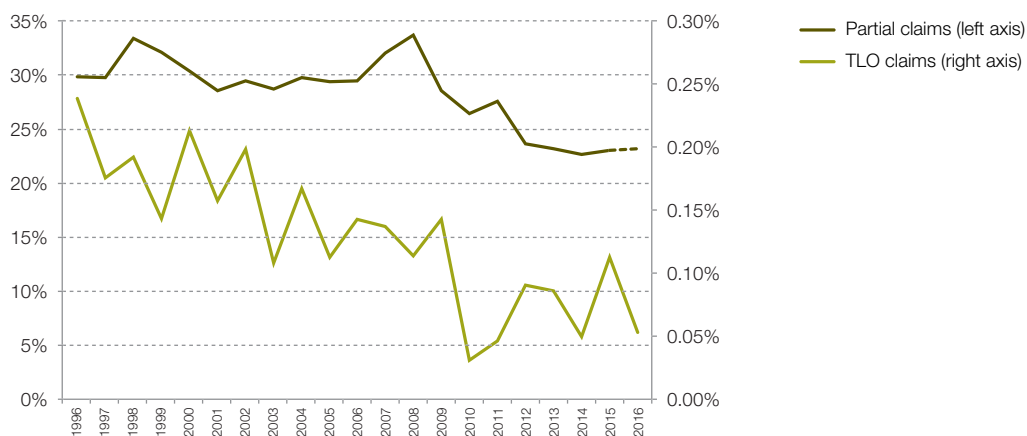
5: Claims frequency – by intervals of claim cost, by date of loss



TOTAL LOSSES – VOLATILE AS EVER

For almost two decades, the trend for total losses has shown only one tendency: downwards. After the hike in 2015 to 0.12%, 2016 again sees the long-term trend levelling out in the frequency corridor of 0.05-0.1%. The volatility of the total loss frequency can be observed in the jagged curve in graph 6. However, the potential influence of constructive total losses (CTL) is a bit harder to identify.

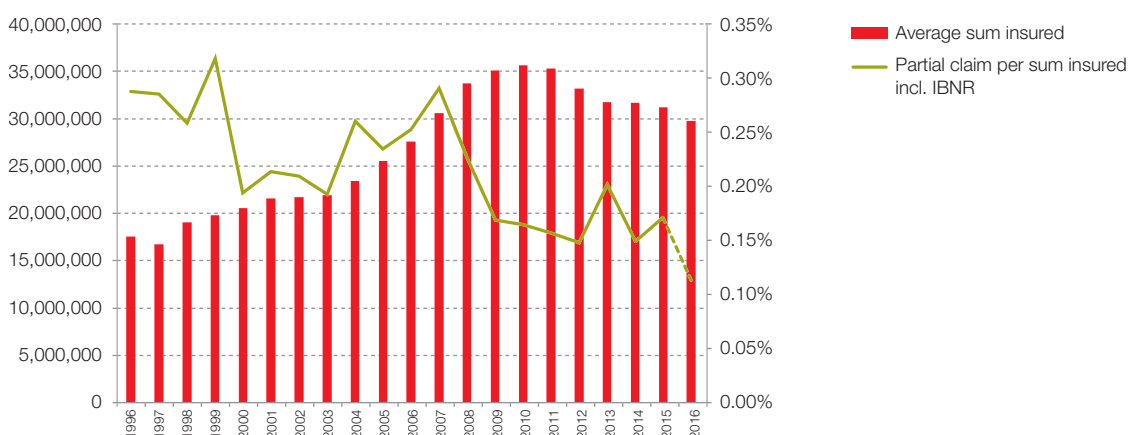
6: Long-term frequency of partial and total claims, by date of loss



Since 2010, the average sum insured in the portfolio - including new and renewed vessels – has decreased continuously. During the same period, the average partial claim per sum insured has not fallen equally (graph 7). As a result, the probability of a constructive total loss has increased.¹ Supporting this argument, the Cefor portfolio as of December 2015 showed an increase in the frequency of total losses, as well as of losses exceeding 50% of the sum insured.²

Although 2016 is free from any costly total losses, two important facts must be kept in mind: Total losses are extremely volatile, and, as history shows, there is no reason to expect that their current low number can be repeated year-on-year. As proven by the “Year of the Titans”, the effect of total losses can be very significant. In addition, while the presented total loss frequency is across the whole portfolio, it may vary substantially depending on vessel segments.

7: Average sum insured (USD) and partial claim per sum insured, by date of loss



¹ According to Clause 11-3 of the Nordic Marine Insurance Plan, a constructive total loss (CTL) is defined as a claim exceeding 80% of the sum insured (www.nordicplan.org).

To cater for currency conversion issues, the Cefor Statistics Forum includes in its total loss statistics all claims exceeding 75% of the sum insured.

² See Cefor Annual Report 2015.

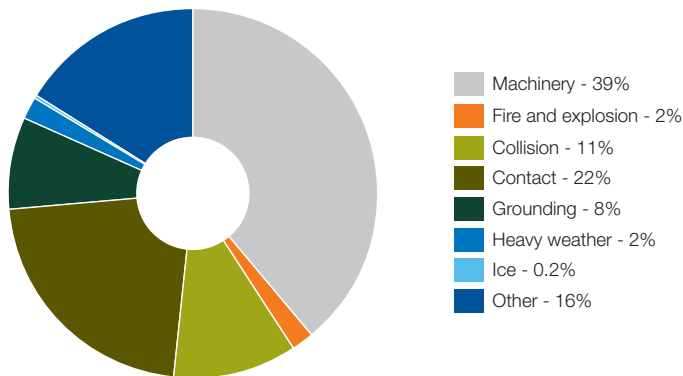
CLAIMS BY TYPE OF CASUALTY

In terms of frequency, machinery claims are the most frequent individual claim type and account for 39% of all claims. The combined total of all nautical-related claims (grounding, collision, contact, and ice) accounts for 41% of the total number of claims, with contact claims (i.e. one vessel colliding with another “non-vessel” object) showing the highest frequency.

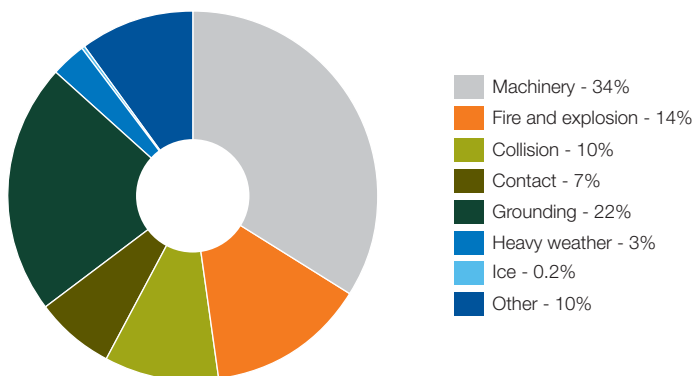
In terms of cost, the breakdown among claim types is more volatile. Since engine-related claims include many minor claims, their relative impact on cost is lower. Fire/explosions represent fewer but expensive claims. In 2016, some costly groundings secured their spot on the podium of most expensive claims.

Breakdown of claims by type of casualty, by date of loss

8a: Numbers (%), 2012-2016, by date of loss



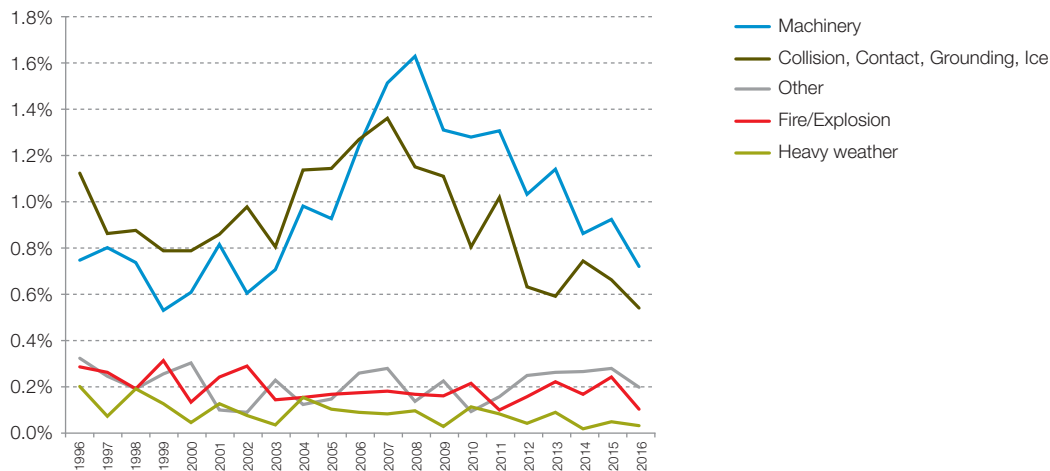
8b: Cost (%), 2012-2016, by date of loss



DEVELOPMENT OF CLAIMS OVER USD 500,000 BY TYPE

One notable trend over past years was towards more expensive machinery claims. In 2007, the number of machinery claims in excess of USD 500,000 exceeded the number of navigational related claims for the first time. In the years since then, both frequencies have improved significantly, but the frequency of machinery claims is still slightly higher than the navigational related frequency.

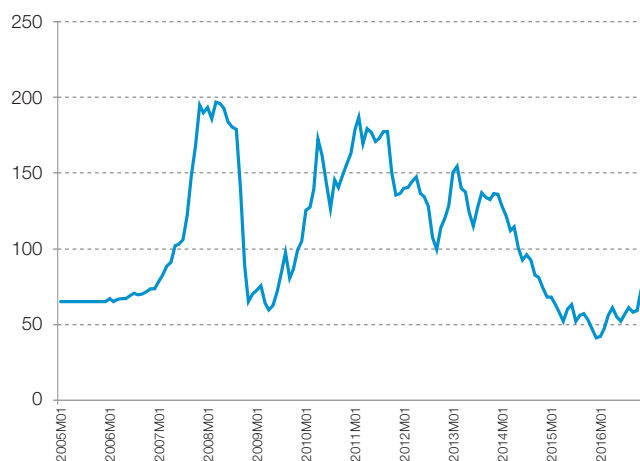
9: Frequency of claims > USD 500,000 by type of claim, by date of loss



IMPACT OF CURRENCIES AND COMMODITIES

With a variety of currencies in the portfolio and claims not necessarily being paid in the same currency as premiums, exchange rates are an important parameter. The effect of a strengthening US dollar between 2012 and 2015 might have had a bearing on the positive claims trend: a significant proportion of insurers' claim costs and expenses are denominated in currencies other than USD (e.g. labour costs for vessel repairs and regionally sourced spare parts are paid for in the repair yard's respective local currency). In 2015, the USD appreciation coincided with a period of reduced costs for raw materials such as steel and other metals used in vessel repairs (measured in USD). In consequence, repair costs were reduced and the value of a fixed USD deductible increased. However, leading indicators such as the steel price now have some tailwind, and prices (denominated in USD) are on the rise. As inflation in Europe and the US is picking up, some investors expect that the US Federal Reserve System (FED) will further reduce its quantitative easing in 2017. Hence, the positive effect we have seen from a strong US dollar and relatively low priced material costs should not be taken as given forever.

10: Iron ore, World Bank Commodity Price Data (USD/dmtu³)⁴



³ Dry Metric Ton Unit

⁴ <http://pubdocs.worldbank.org/en/561011486076393416/CMO-Historical-Data-Monthly.xlsx>

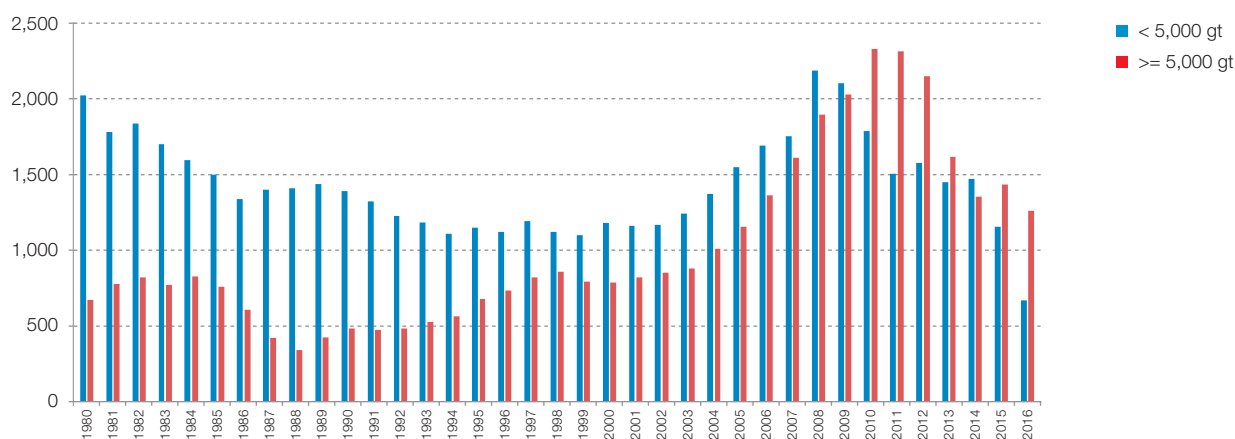
2001-2012: THE FLEET BECOMES YOUNGER AND MORE EXPENSIVE

Over the years 2007 to 2009, an increasing number of newbuilt vessels entered the portfolio. The outlook for seaborne trade was bright, and capital poured into the market. Even after this shipping boom, the influx of newbuilds influenced the NoMIS portfolio. From 2001 to 2012, the average age of a vessel decreased from 14.1 to 11.7 years. Strongly correlated, the average sum insured constantly increased, eventually peaking in 2011.

...2012-2016: FEWER NEWBUILDS

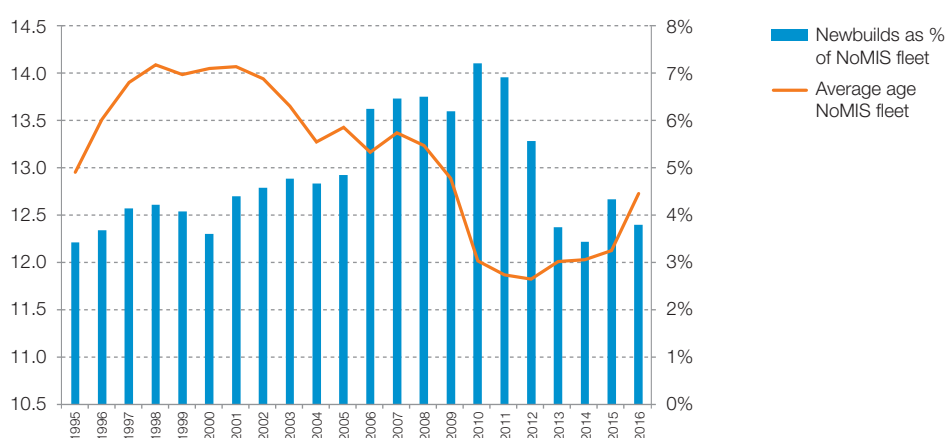
World shipbuilding activity slowed down significantly from 2011, and settled at a long-term low level from 2012. Vessels that had been ordered before the financial crisis continued to be delivered in the following years. This built up even more overcapacity. After the crisis set in towards the end of 2008, shipyards received less orders and even contracted orders were cancelled. For the NoMIS portfolio, this means that the influx of more modern and younger vessels slows down. Evidence of this can be observed as the percentage of the youngest vessels in the 0-5 year range dropped to 24% in 2016 from an average of 31% for the period 2011-2015 (with the maximum share of 34% reached in 2011).⁵ Graph 12 illustrates how the influx of newbuilds into the NoMIS portfolio influences the average age over time.

I1: World fleet: Deliveries > 5,000 gross ton, by year of build



Source: Lloyds List Intelligence "World Fleet Update", vessels with IMO-no., all vessel statuses, as of January 2017.

I2: Average age, and newbuilds as % of NoMIS fleet

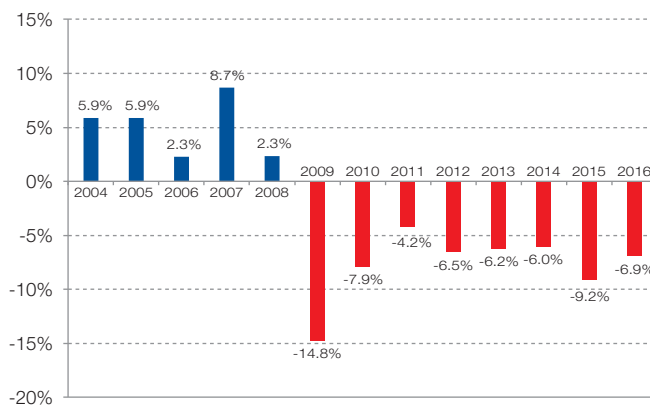


⁵ See "2016 Cefor NoMIS Ocean Hull Report" on www.cefor.no/statistics.

...TODAY: INSURED VALUES CONTINUE TO DECREASE

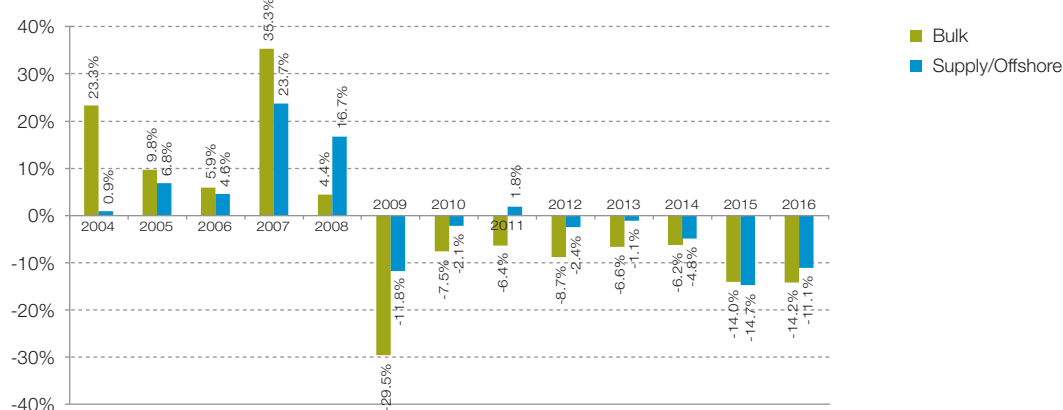
The insured values of vessels reacted much faster to the shipping crisis than shipyards' order books, and the trend of falling values, which started in 2009, is still unbroken. Graph 13 illustrates the annual change in insured values looking at only renewed tonnage (thereby excluding new entries, which often are newbuilds that drive up the average sum insured). In 2009, insured values plummeted significantly for the first time in years. In stable market conditions, a slight reduction in the sum insured per vessel due to the ageing factor is expected. However, a 15% drop is not considered normal, and neither is 7%, as 2016 figures indicate. Relevant factors when a shipowner assesses the value of his vessels for renewal are the market value of the hull, mortgage value, value of the charter party and the cost of reconstructing the vessel. The latter is seldom explicitly considered or stated, but highly relevant for the insurer who carries the cost of repair:

13: Average annual change in insured values on renewed vessels



The partial claim cost as a percentage of the insured value, and hence the risk of a constructive total loss, increases if the insured value falls more than the repair cost. Graph 14 indicates the type of vessels that are currently most exposed to this. Bulk vessels are highly vulnerable due to their sheer number and oversupply. The situation allows charterers to easily pick and choose between their shipowner of choice with vessels lying idle waiting for cargo. Consequently, their insured value has been decreasing for many consecutive years. In 2014, the situation worsened also for supply/offshore vessels under the challenging market environment in the energy sector:

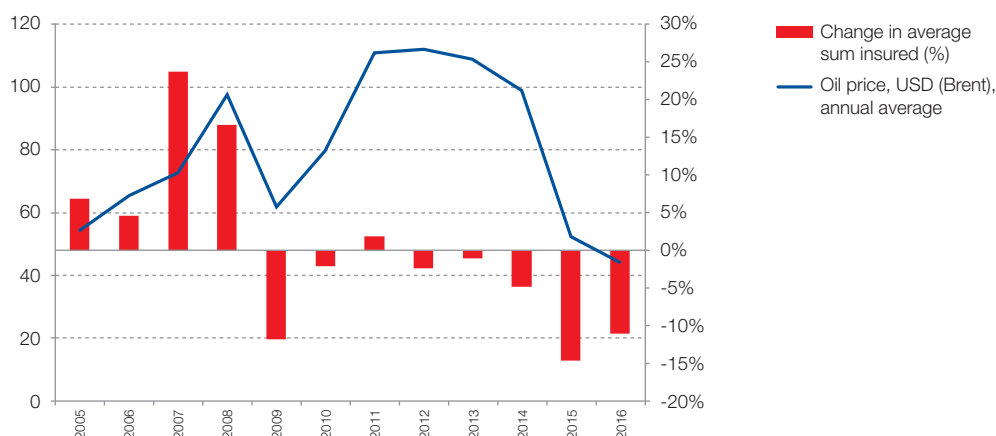
14: Annual change in insured values on renewed vessels (bulk and supply/offshore)



OFFSHORE STILL UNDER OIL PRICE PRESSURE

Albeit OPEC's careful reduction of oil supply, the world's energy sector is still struggling with prices around USD 50-60 per barrel. The Nordic and international news has been filled with reports of lay-offs in oil majors and lay-ups of rigs and supply/offshore vessels. Consequently, as their discounted net present value is one indicator for the sum insured, the market value of supply/offshore vessels decreased. For the 2016 renewal, the roughly 11% reduction in insured values is still much higher than the average reduction of other vessel types in the portfolio, with the exception of bulk vessels. Graph 15 shows that the oil price generally correlates with the sum insured. The oil price that started its cautious increase in the 2nd quarter of 2016 has yet to slow down the decrease in the value of supply/offshore vessels.

15: Change in average sum insured (supply/offshore) on renewal & oil price (Brent)⁶



While further lay-ups and a significantly downscaled market value will not help with premiums in this segment, they may relieve insurers of some liability. However, as we have shown above, claim costs have not fallen in line with the sum insured. The result of this interaction is a greater potential for constructive total losses.

SURVIVAL OF THE FITTEST

Many wild animals go into hibernation over a period of low food supply and demanding environmental conditions. And as usual, humans learn from nature: vessels are being rigged for lay-up. As many segments are still suffering from high oversupply, the risk of potential lay-ups is as prevalent as ever.

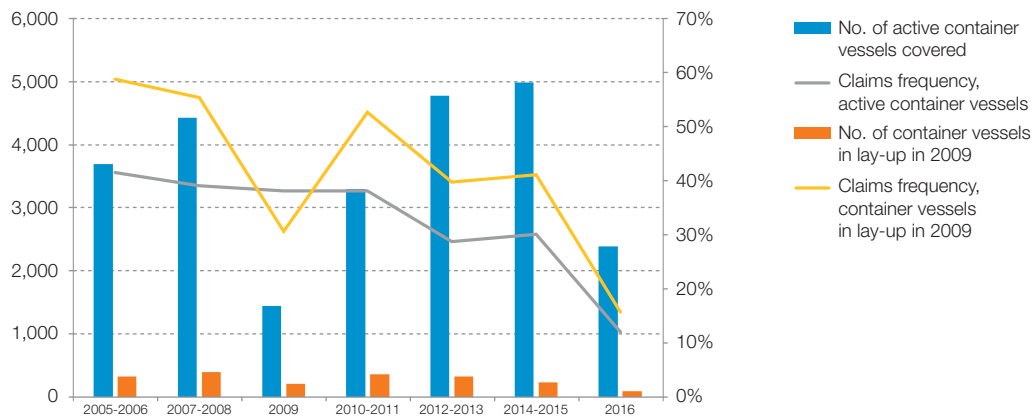
Anecdotal evidence suggests that lay-up reactivation poses an increased risk to insurers. The Cefor Statistics Forum therefore carried out an analysis of container vessels that were laid up after the financial crisis in 2008/2009. The result was somewhat surprising. Vessels in lay-up had a higher claim frequency than the active vessels both in the years before lay-up and even more so in the years after lay-up. The same holds true when we split the data by vessel age and size, so it cannot be explained by age and size characteristics of the vessels that went into lay-up. One possible explanation could be that "problem vessels" were the most likely to go into lay-up and that the problems prevail after lay-up. This "survival of the fittest" explanation could explain parts of the improvement in the claims frequency in the years after the financial crisis. Graphs 16 and 17 illustrate these observations. They show the performance of container vessels that went into lay-up over time and how both the frequency and severity curve for the laid-up vessels are hovering above their counterparts. Only in the actual year of lay-up did the frequency drop below the comparison group of vessels in operation.

Although container vessels still suffer from low freight rates and the first market consolidations have been observed, offshore and supply vessels have recently shown the highest lay-up activity. Encouraged by the findings for container

⁶ World Bank Commodity Price Data:
<http://pubdocs.worldbank.org/en/561011486076393416/CMO-Historical-Data-Monthly.xlsx>

vessels, the Statistics Forum carried out the same analysis on the offshore segment. Unlike the container segment, the results showed that the performance of laid-up supply/offshore vessels was not significantly worse before they were taken out of business. In our analysis, a non-operating offshore vessel during its time of lay-up had a claims frequency that was lower (i.e. around 50% less) than that of an active vessel. Independent of the above analysis, it is consequently fair to assume that the high number of vessels in lay-up currently pushes down the claims frequency and contributes to the overall positive claims picture. It remains to be seen how the reactivation period plays out on the claims frequency.

16: Claims Frequency – Active Container vessels versus Container vessels in Lay-Up in 2009



17: Claim per vessel (USD – Active Container vessels versus Container vessels in Lay-up in 2009)

